

# **Parcel C Remedial Action Project Update for Parcel C Hunters Point Naval Shipyard San Francisco, California**

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Contracted Support to NAVFAC BRAC PMO

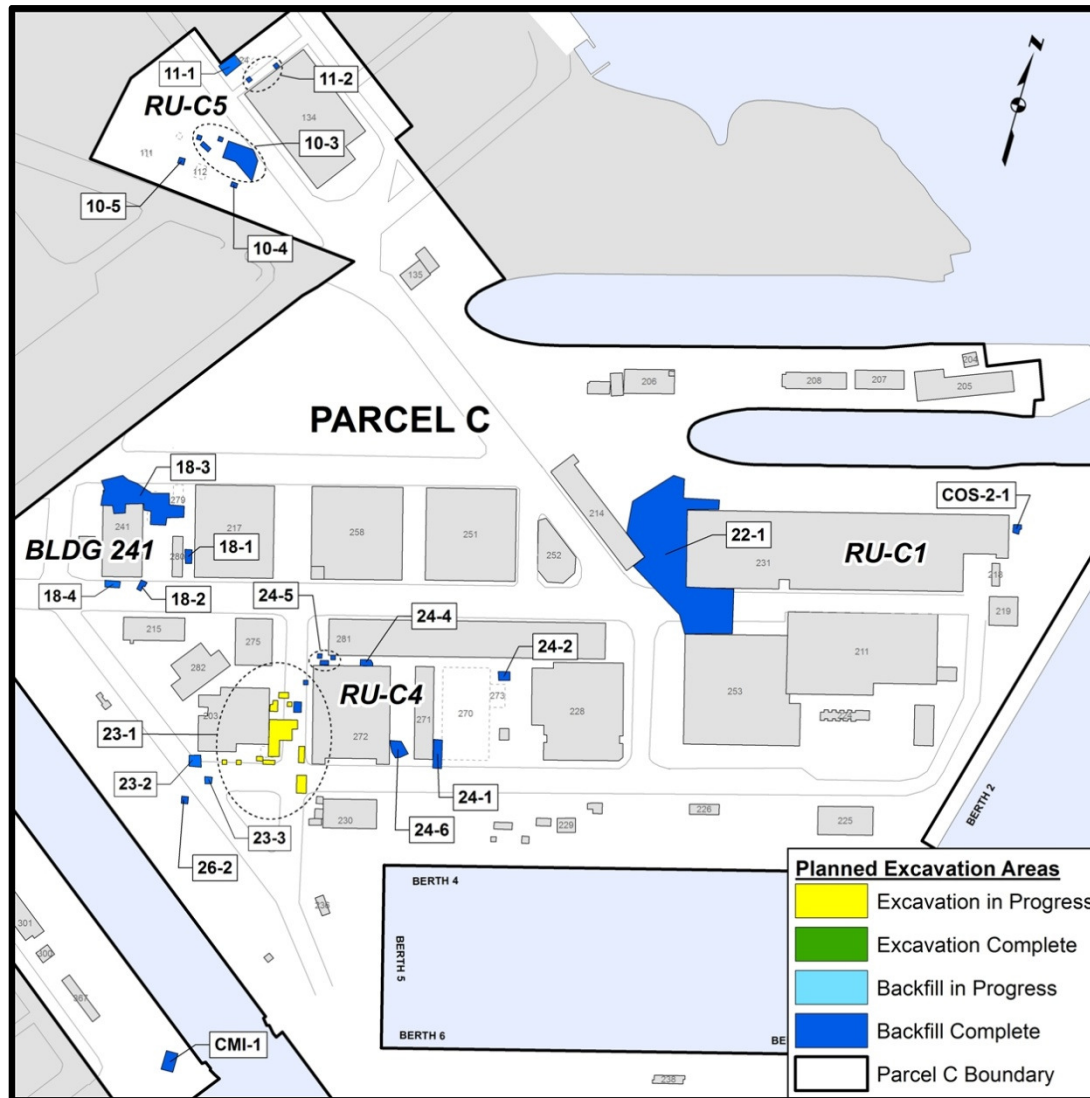
BCT Meeting February 27, 2014

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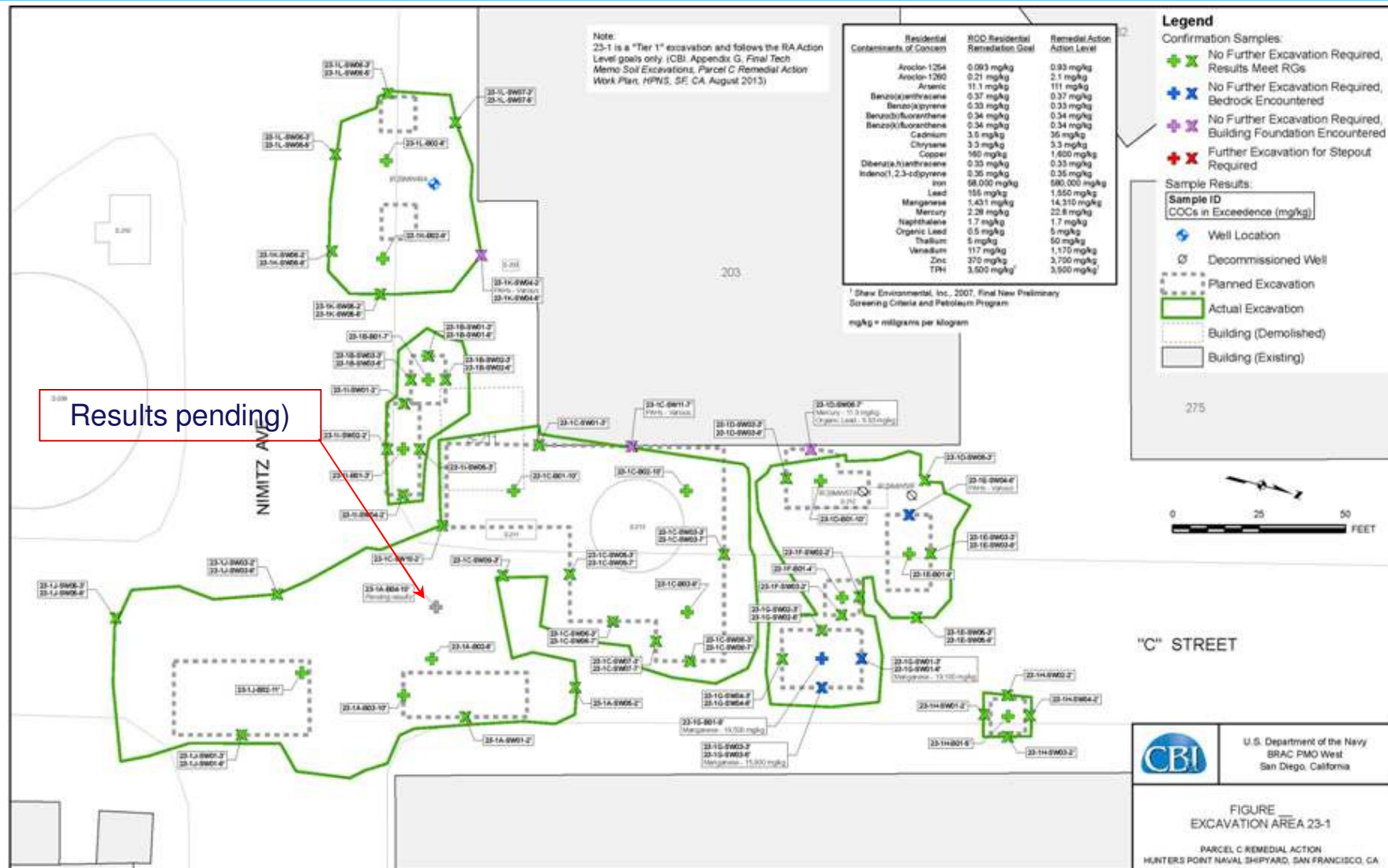
- **Overview Status Map**
- **Excavation Status**
- **Groundwater Remedy Status**
- **SVE Systems Progress**
- **What's Next**
- **Schedule**

# Parcel C Excavation Status

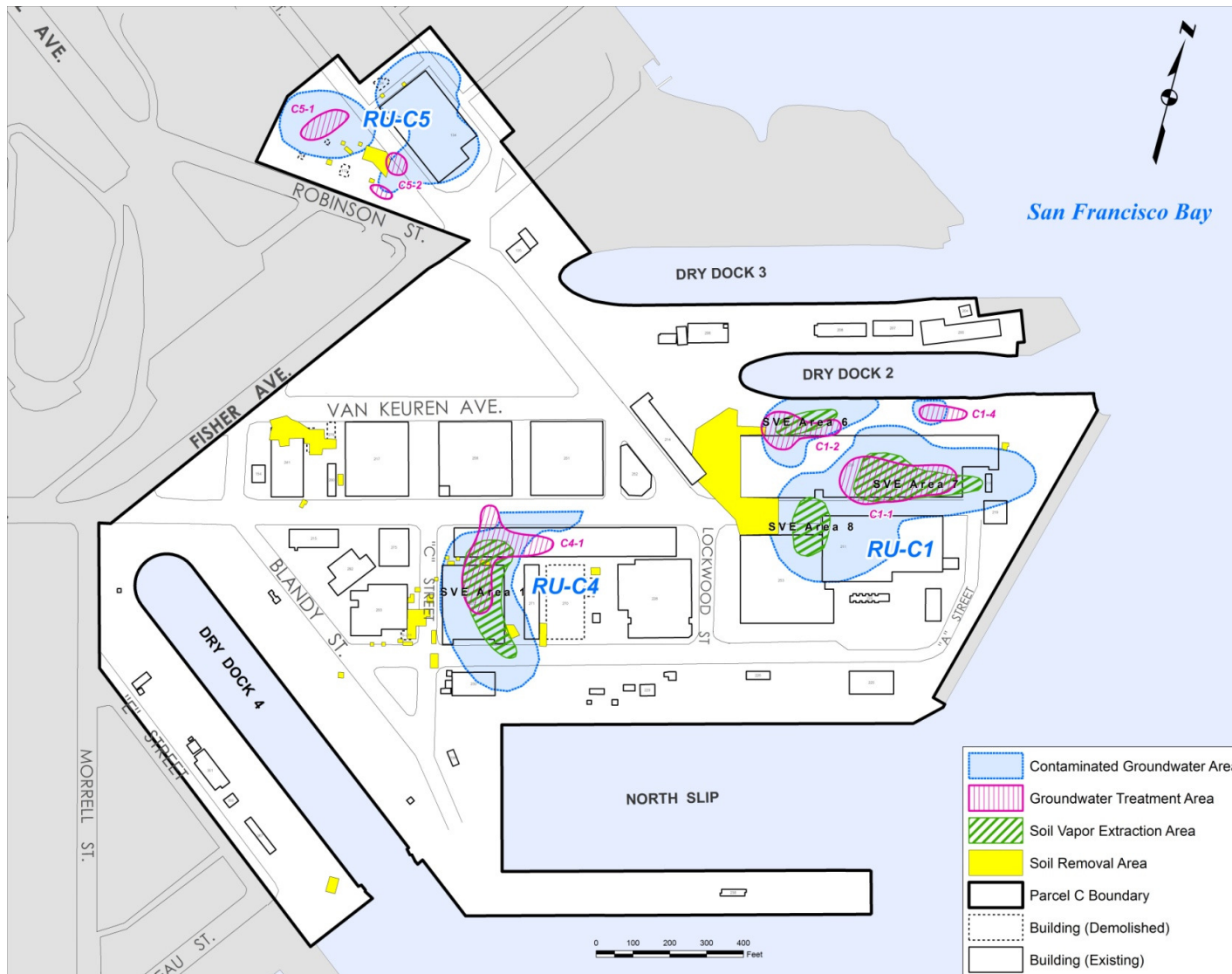


- Approximately 25,720 bcy have been excavated (February 13, 2014).
- Data for one confirmation sample is pending before 23-1 is complete (see Figure).

# Parcel C RU-C4, Excavation 23-1



## Parcel C Injection Locations and SVE System Locations

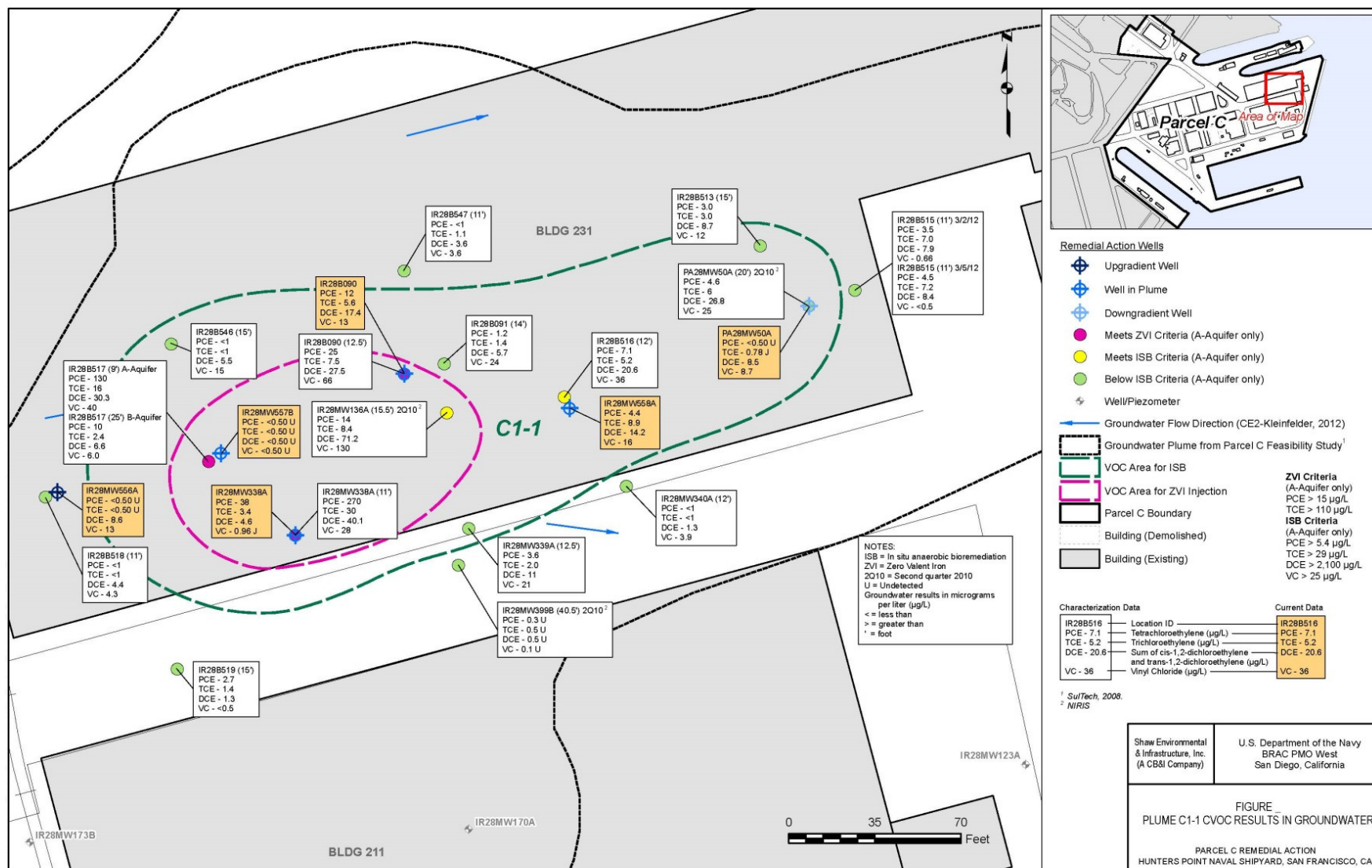


Parcel C Remedial Action  
Plumes to be treated by  
CB&I:

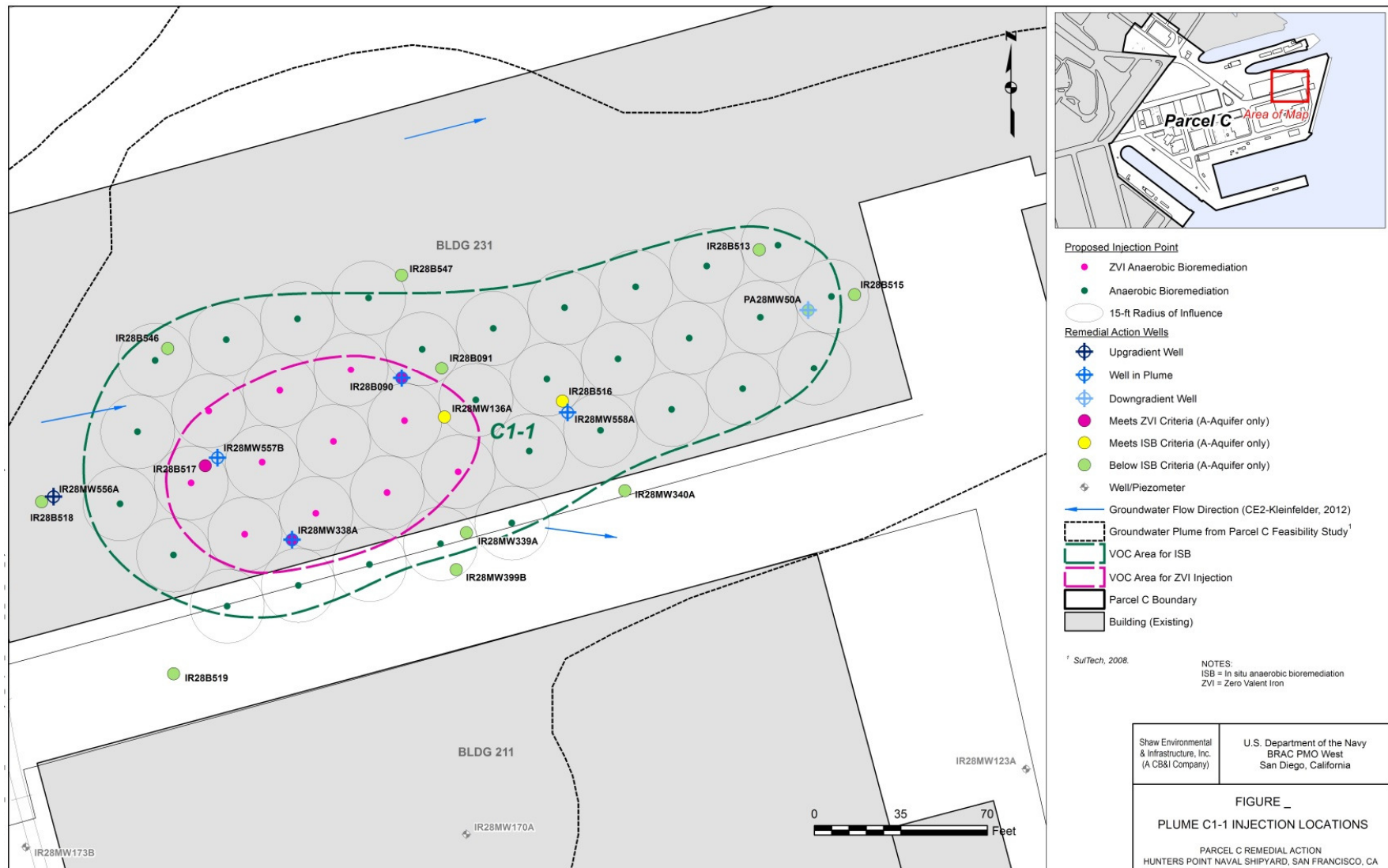
- Plume C1-1
- Plume C1-2
- Plume C1-4
- Plume C4-1
- Plume C5-1
- Plume C5-2

# RU-C1 Plume C1-1

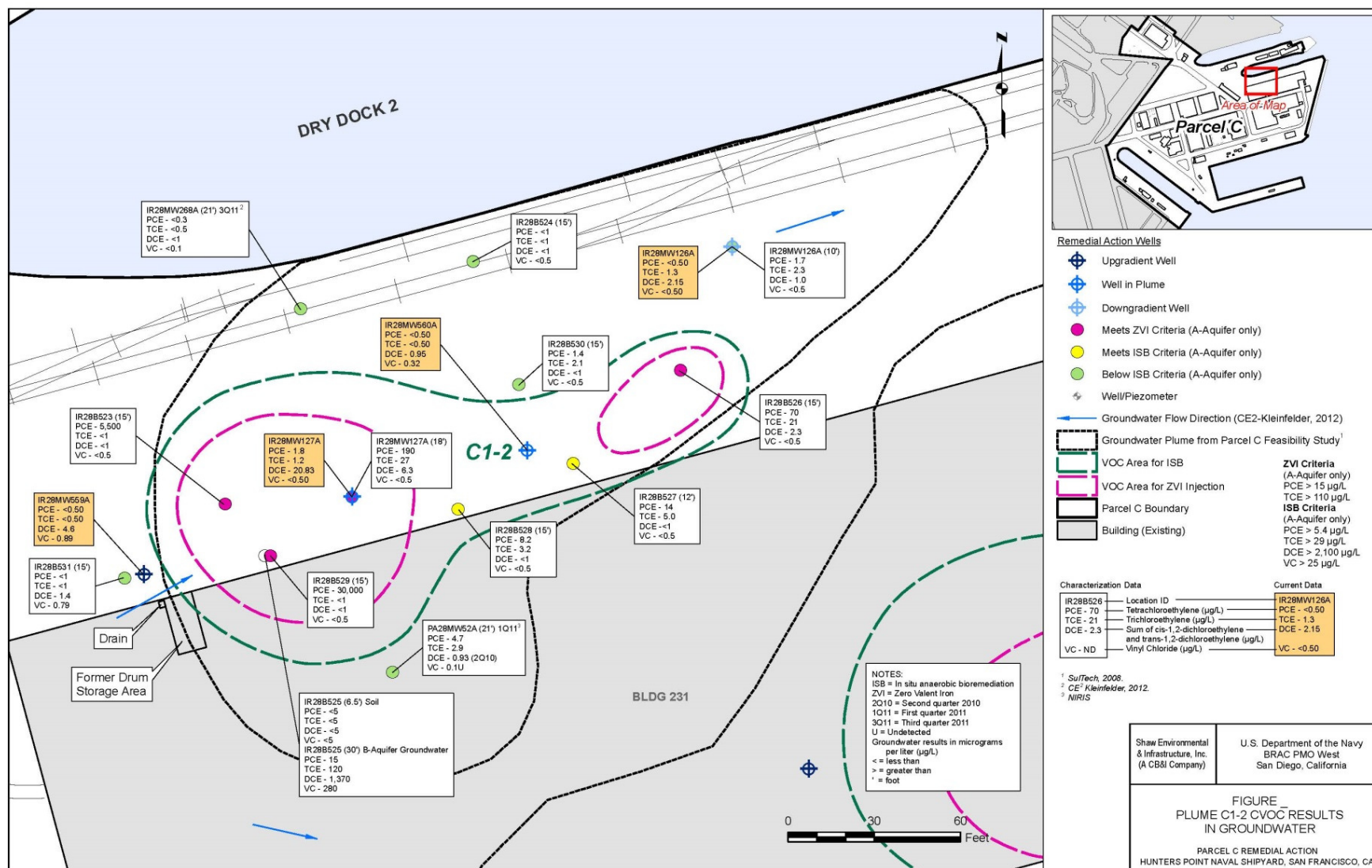
## 2013 Baseline Groundwater Sampling Results



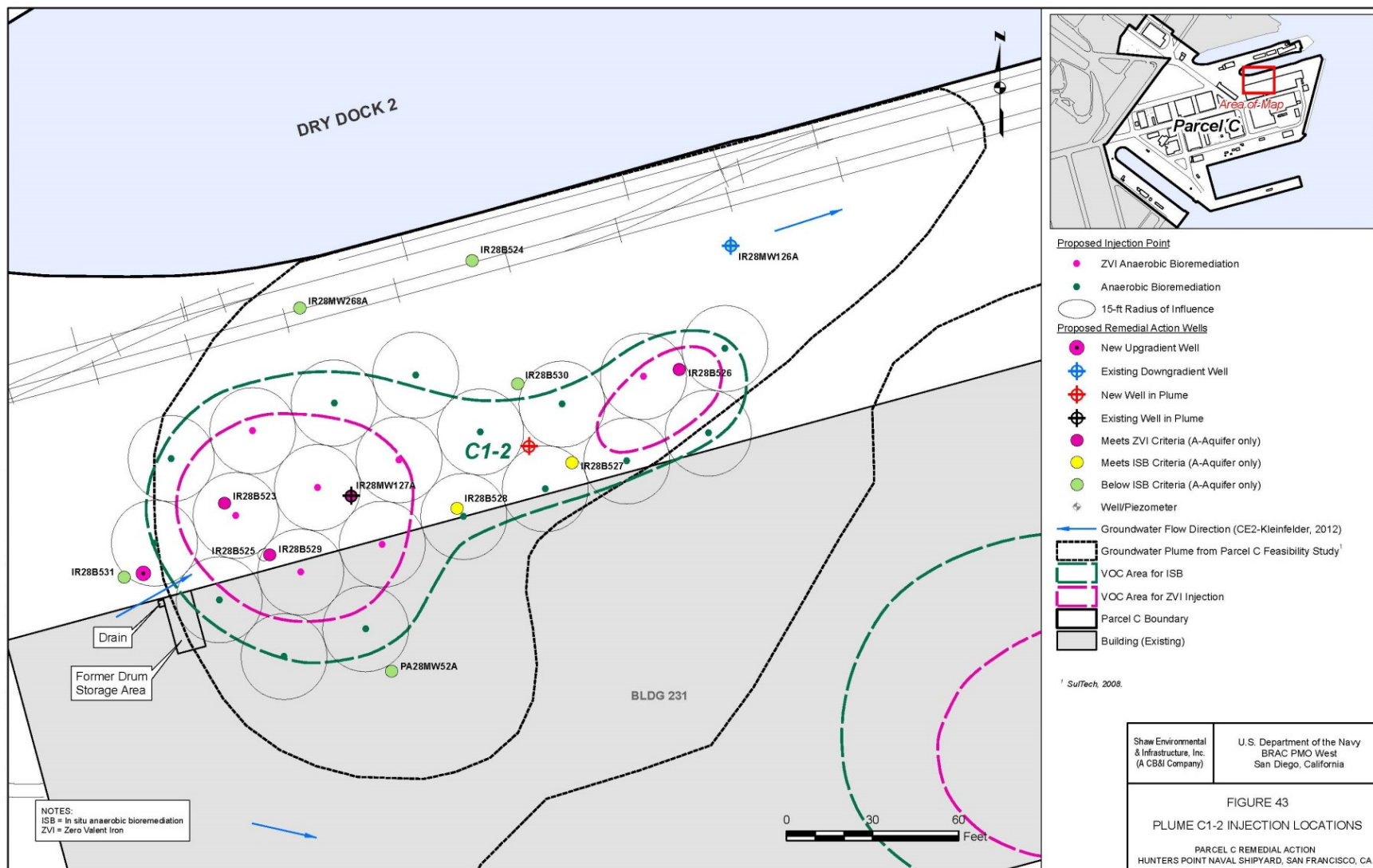
# Planned Plume C1-1 Injections



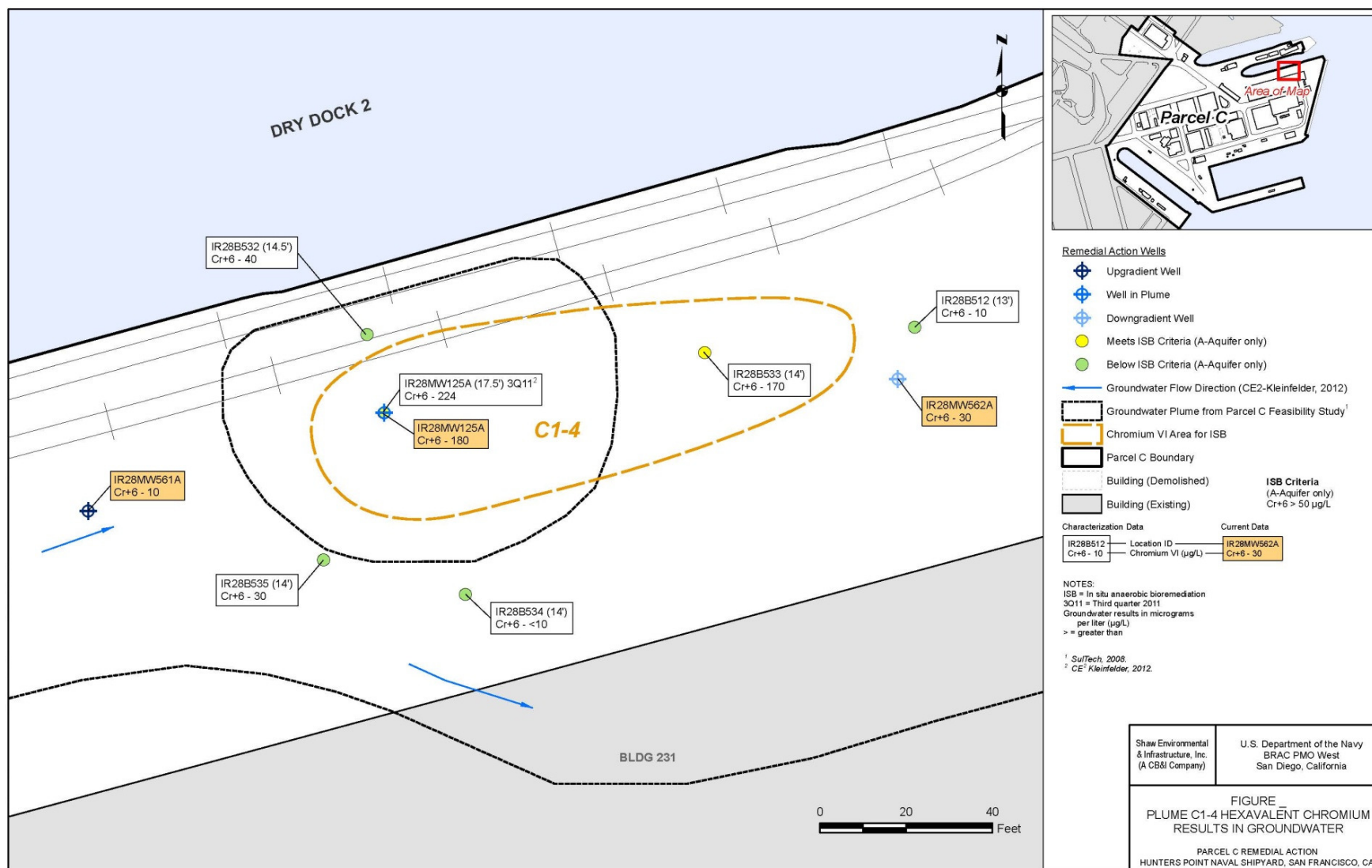
# RU-C1 Plume C1-2 2013 Baseline Groundwater Sampling Results



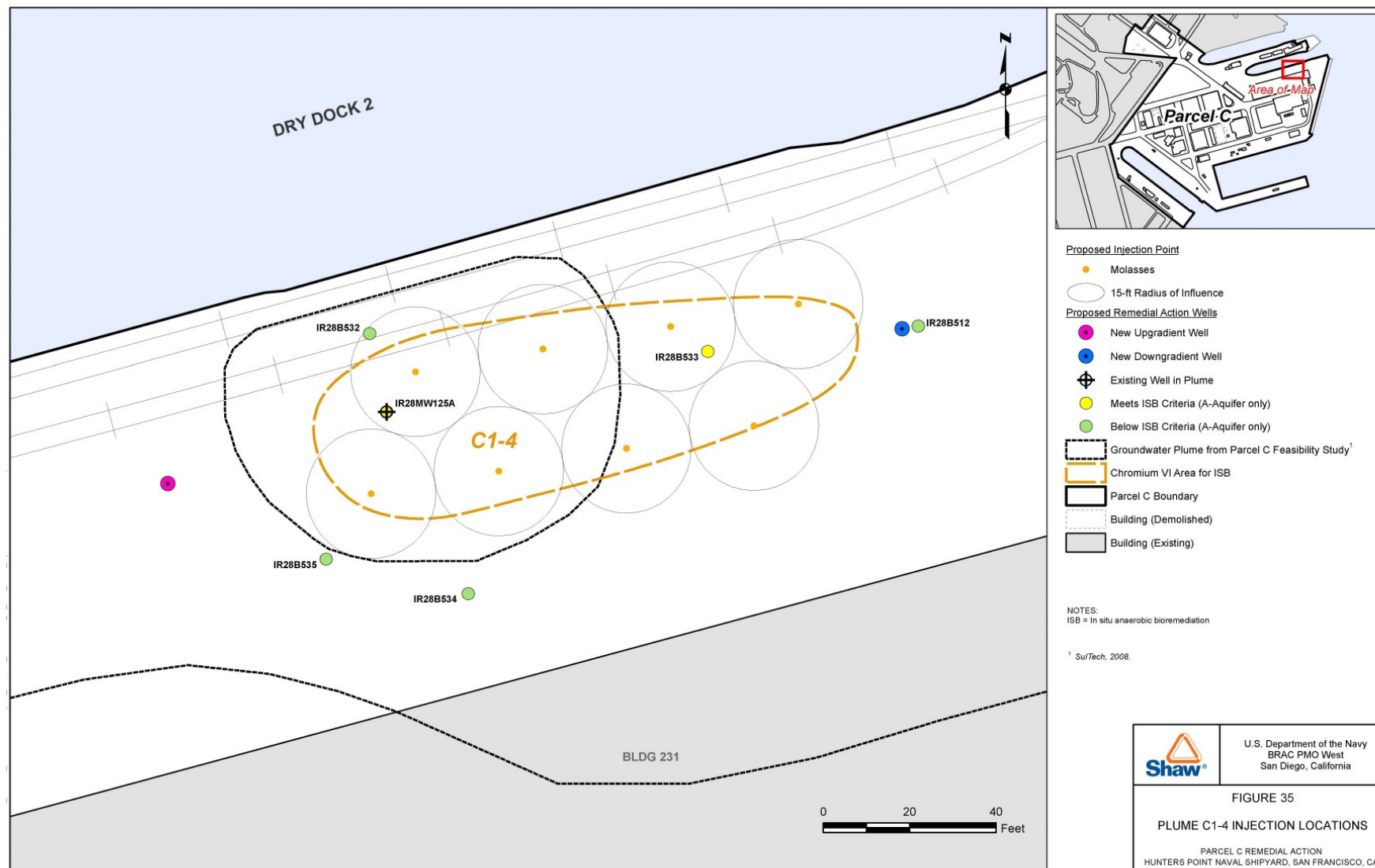
# Planned Plume C1-2 Injection Area



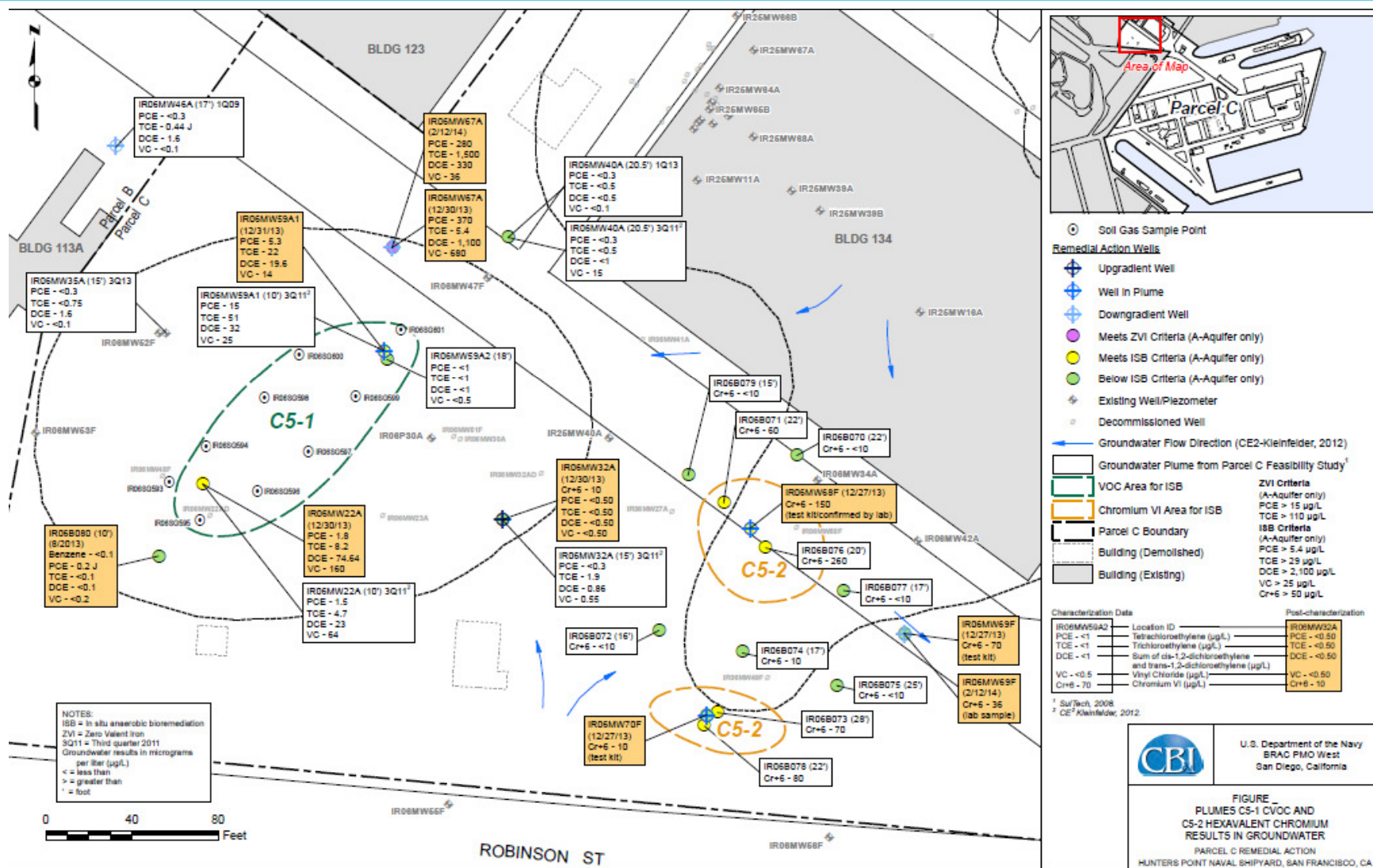
# RU-C1 Plume C1-4 Groundwater Sampling Results



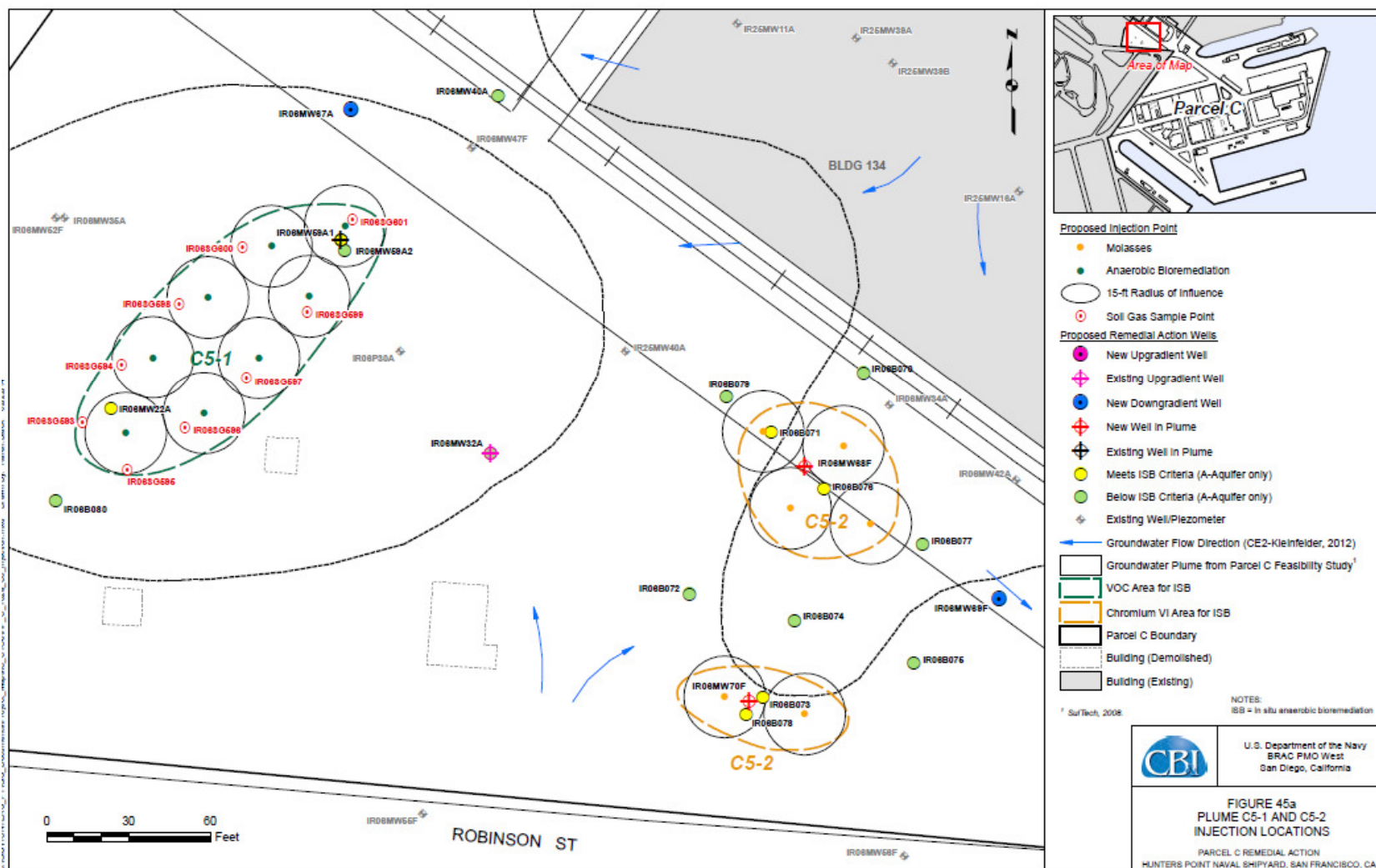
# Planned Plume C1-4 Injections



# RU-C5 Plumes C5-1 and C5-2 2014 Baseline Sampling and Re-Sampling Results



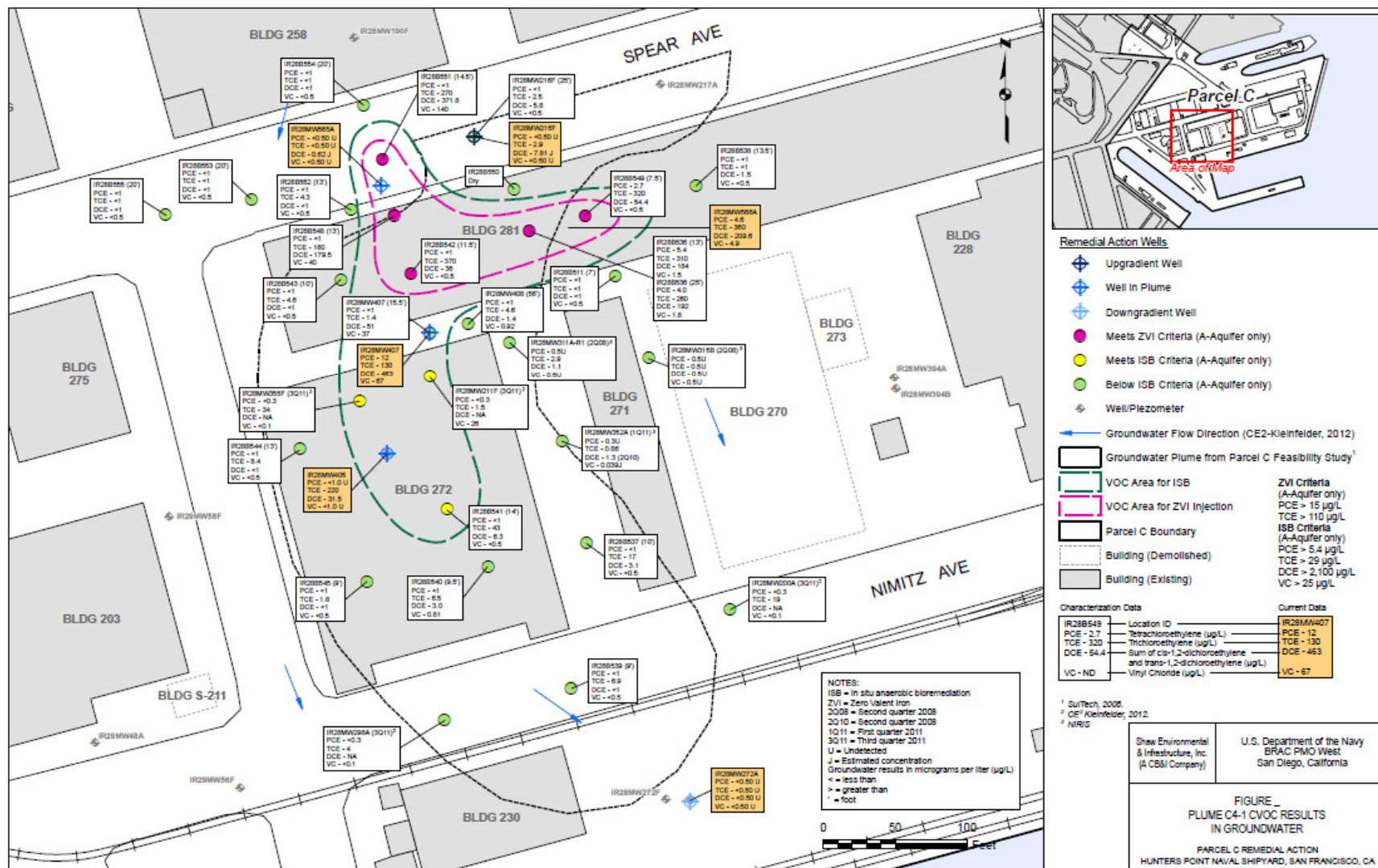
# RU-C5 Injection as Outlined in the Work Plan (based on the Parcel C Final Remedial Design (KCH, 2013))



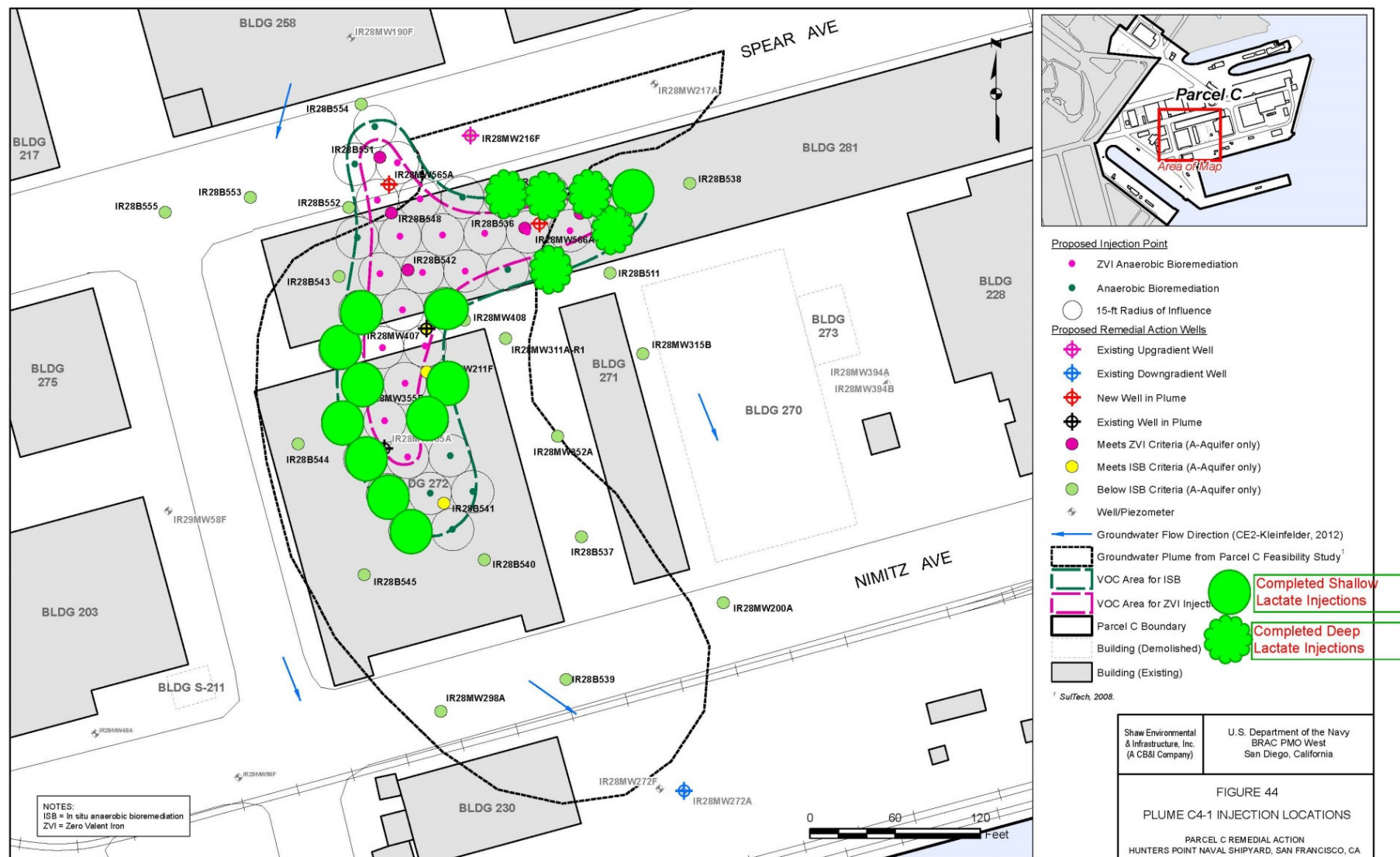
- Groundwater monitoring well IR06MW67A was sampled to verify the plume location as part of the Dec 2013 baseline sampling prior to commencement of ISB injections.
- IR06MW67A was previously located outside the known plume, but now showed VOC levels (TCE, PCE, DCE, vinyl chloride) above ISB treatment criteria.
- Re-sampling of the well in February 2014 confirmed the VOC results.

**Recommendation:** Further characterization to bound the RU-C5 plume in Spring 2014. Based on GW results, further bioremediation may be required.

# RU-C4 Plume C4-1 2013 Baseline Sampling Results



# RU-C4 Injection Progress



## RU-C4 Building 281 Injections



Nitrogen Tube Trailer

## Mixing Substrate



Adding Water from Frac Tank and Lactate to Batch Tank



Mixing Water/Lactate with  
SDC-9 in Batch Tank



Adding SDC-9 to Batch Tank

## RU-C4 Building 281 Injections



Drill Rig with Packers Set in Boring



Floor Level Monitoring No Floor Deformation



Drilling Injection Boring

## SVE System Summary



- There are eight total SVE systems designated in the Final Remedial Design (KCH 2013). CB&I are installing five, Alliance Compliance one, and two systems remain to be scoped (Bldg 134 SVE systems 4 and 5)

### **COMPLETED:**

- SVE system installations are completed for Areas 1, 3, 6 and 7
- SVE system for Area 8 (RU-C1, Building 211/253) is partially complete pending resolution of the solvent line issue inside Building 253
- SVE System startup/shakedown testing was successfully completed at RU-C1 (SVE Areas 6 and 7) on February 18, 2014
- SVE System startup/shakedown testing at RU-C5 (SVE Area 3) began on February 19, 2014 and is expected to be complete by March 4, 2014

### **WHAT'S LEFT:**

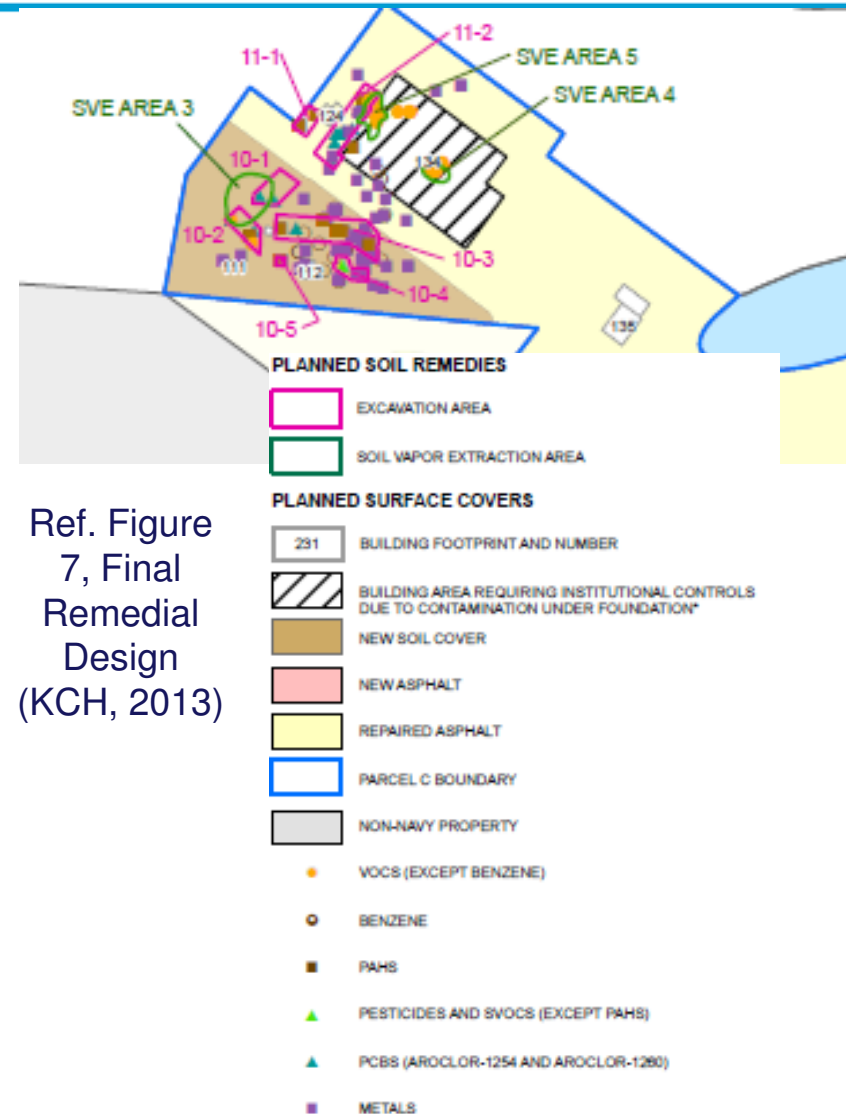
- Complete system installation at SVE Area 8
- System startup testing at SVE Areas 3 and 8

## RU-C5: SVE Areas 4 & 5



- SVE Areas 4 & 5 from the Remedial Design are located within Bldg. 134.
- SVE Areas 4 & 5 were not included in current project scopes pending results of Treatability Study (CDM Smith 2012).
- The Treatability Study was effective in reducing VOCs in groundwater and soil vapors but did not eliminate the need for installation of SVE Systems in Area 4 & 5.
- VOC levels in soil vapor at Bldg. 134 remain above Soil Gas Action Levels (SGALs) after the Treatability Study.
- Most recent BWGM Exceedance Memo (September 2013) indicates VOC levels in groundwater remain above RGs.

**Recommendation:** Further characterization in Spring 2014. Based on GW results, further bioremediation may be required too.



## SVE System Photos



SVE Area 1 System at  
Building 272 and 281



## SVE System Photos



### Start Up of SVE Area 1 System Outside Building 272 (RU-C4)



## SVE System Photos



Layout of SVE Area 3 (RU-C5)



# SVE System Summary



## Sections of SVE System in Area 6 and 7 (RU-C1)



## What's Next



- Complete remaining over-excavation/sampling locations at 23-1 in RU-C4
- Complete backfilling (23-1), compaction, and final grading of all excavations (~90 percent complete)
- Complete the final land survey of all excavation areas and injection areas
- Complete waste characterization sampling of final stockpile for T&D (by the Basewide T&D contractor)
- Finish injection at RU-C4. Move to Plume C-1 and begin injection
- Complete the SVE system startup testing at SVE Areas 3 and 8

## Schedule



Activity	Date
Complete Over-excavations As Needed	September 2013 – February 2014
Placement of Backfill and Site Restoration	October 2013 – February 2014
SVE System Assembly and Installation	October 2013 – February 2014
Remedial Injection Bio & ZVI	January 2014 – May 2014
Post-injection Groundwater Sampling	March 2014 – March 2015